

and relationship between animal and human infection

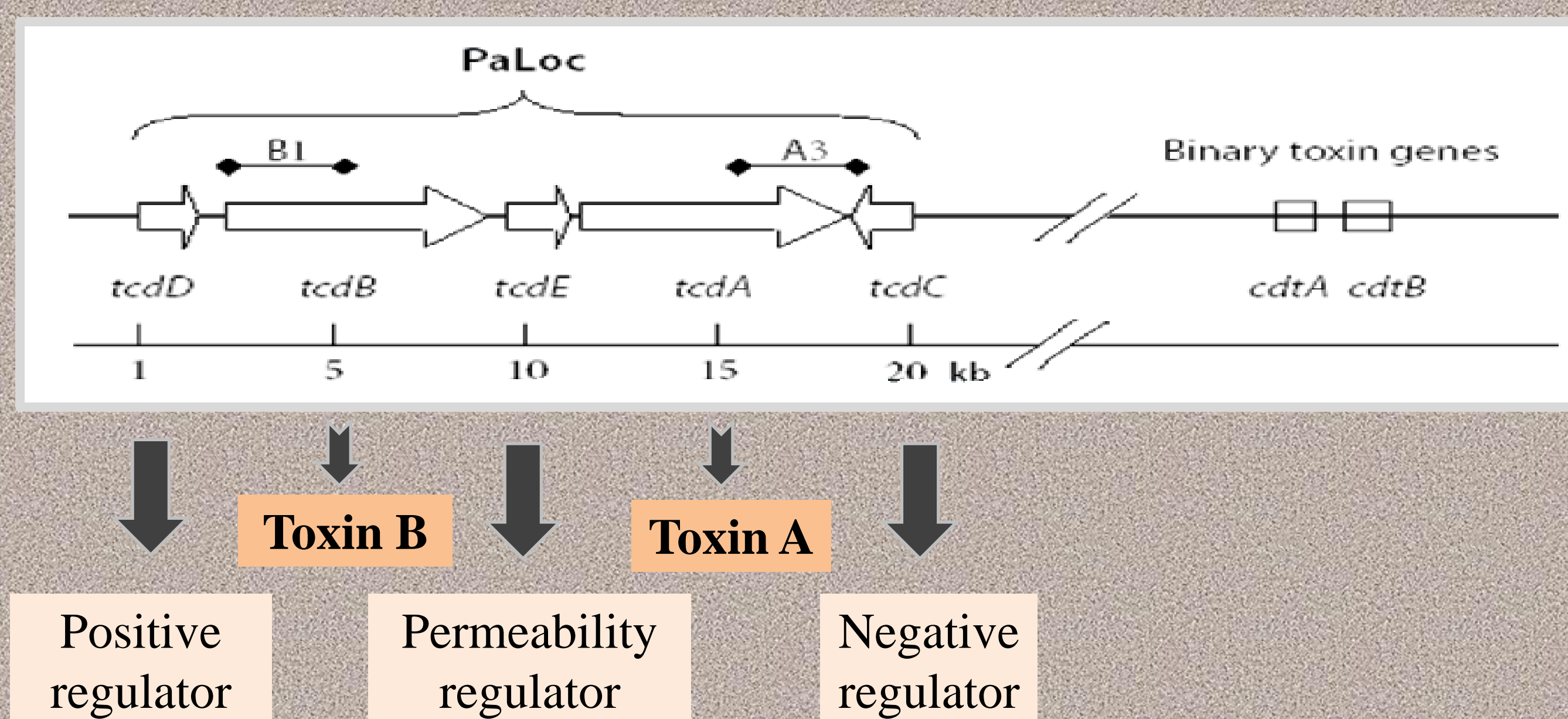
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OBJECTIVE

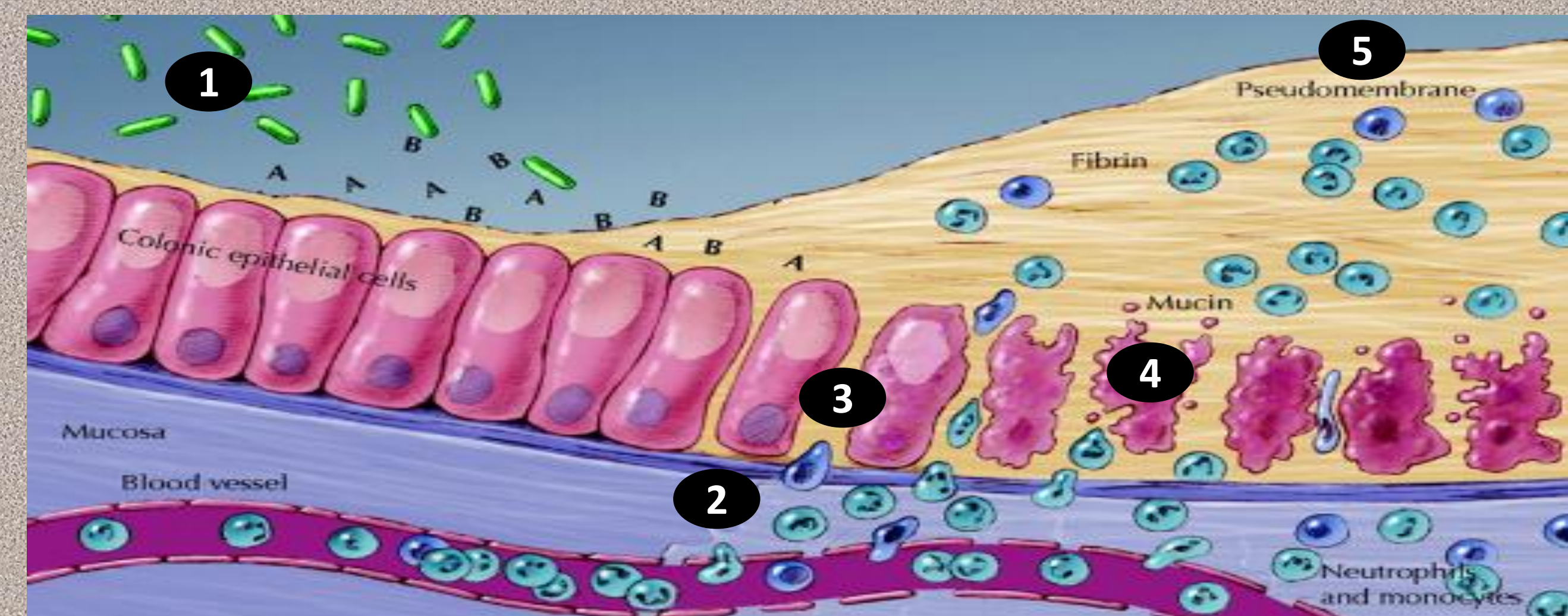
To develop a bibliographical review summarizing the most important elements of the **epidemiology of *Clostridium difficile***.

INTRODUCTION

C. difficile is an obligated anaerobic, gram positive and spore-forming bacterium, that is a common inhabitant of the gut in several mammal species. This microorganism contains toxigenic strains which are considered the cause of ***C. difficile* infection (CDI)** in humans and animals.



¹Figure 1. Locus of pathogenicity (PaLoc) of *C. difficile* and function of PaLoc genes.



²Figure 2. *C. difficile* vegetative cells produce toxins A y B and hydrolytic enzymes. 1. Local production of toxins A and B. 2. Opening of epithelial cell junctions. 3. Epithelial cell apoptosis. 4. Local production of hydrolytic enzymes. 5. Watery diarrhea.

CDI IN PIGS

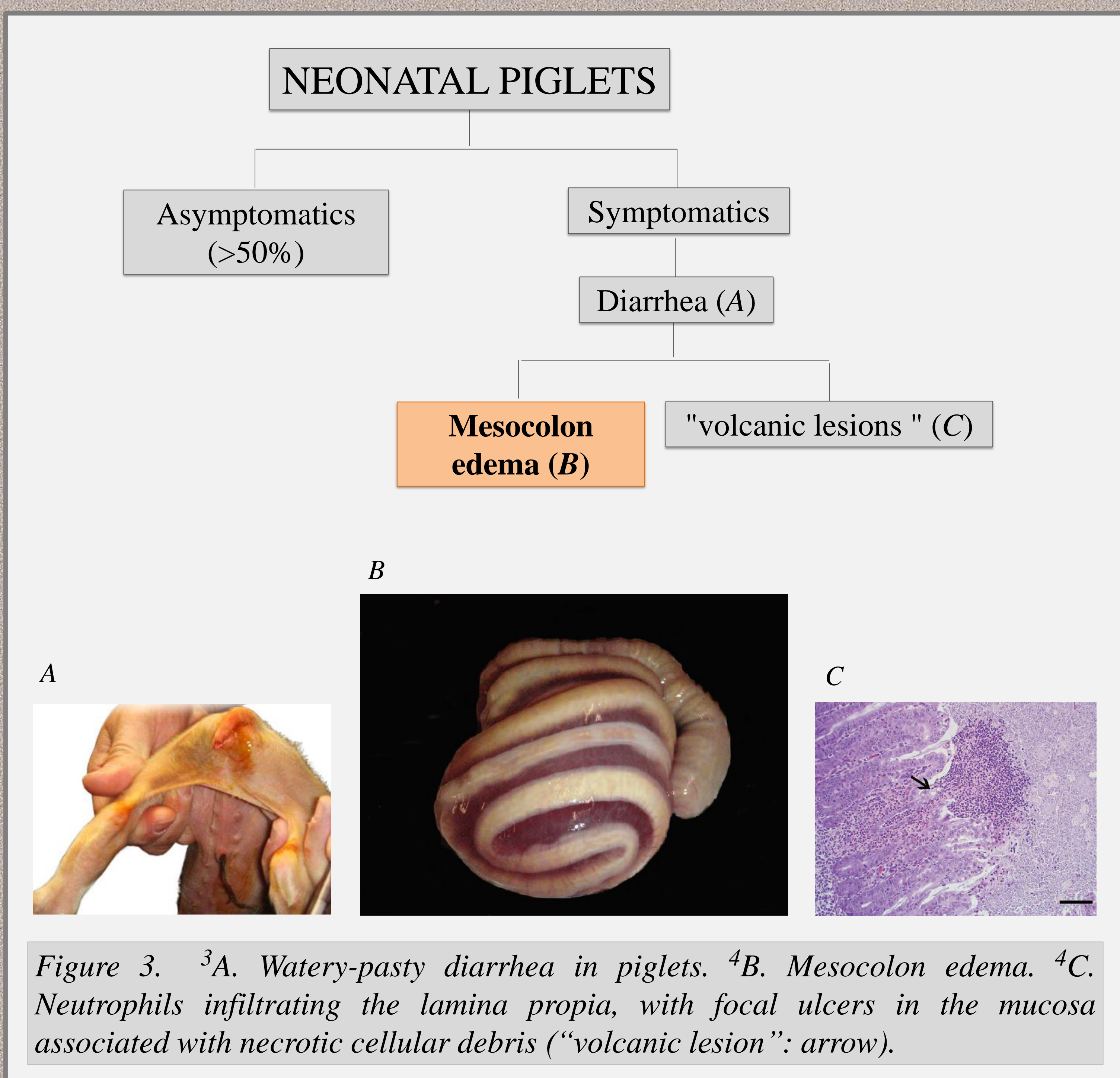
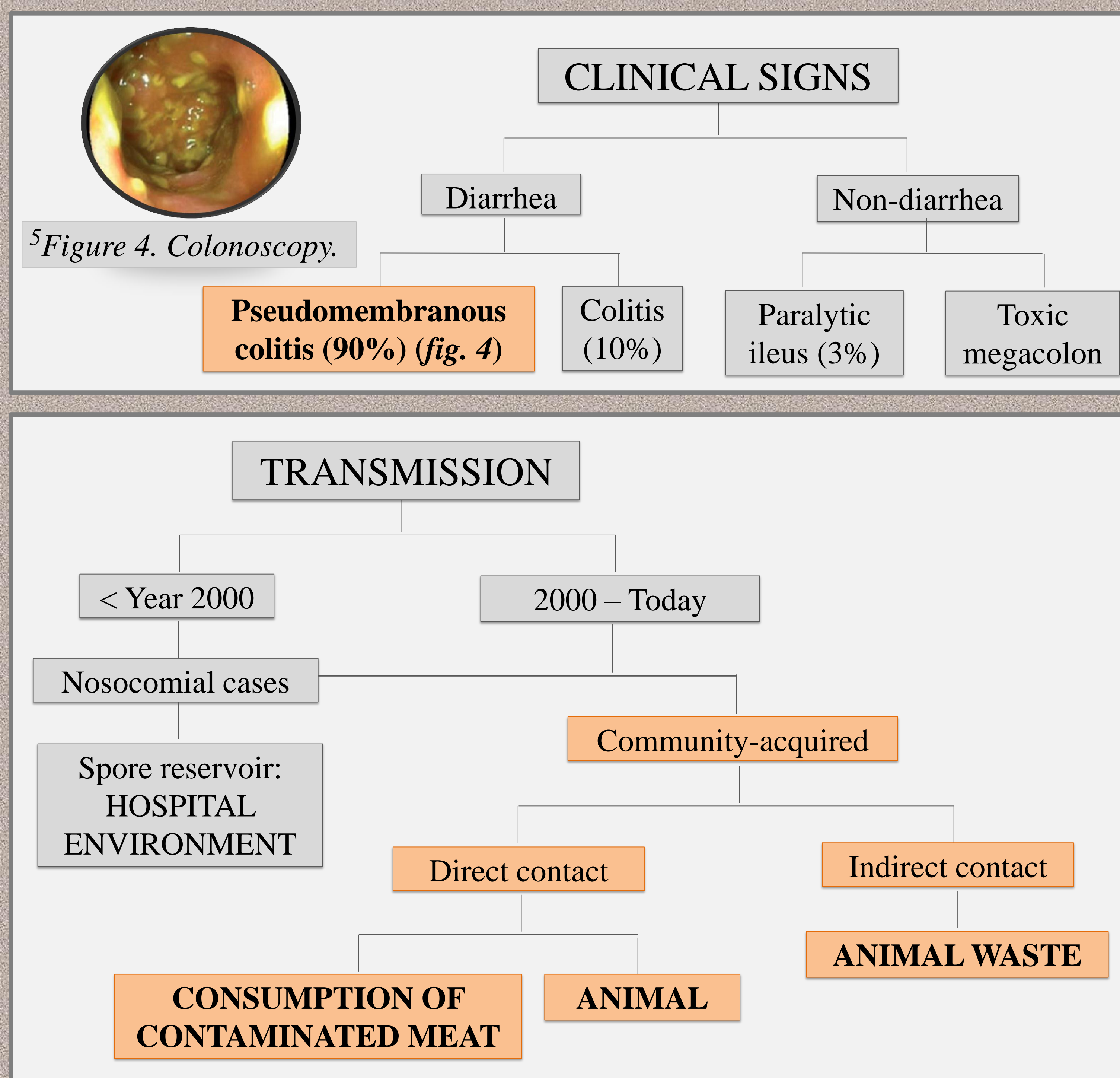
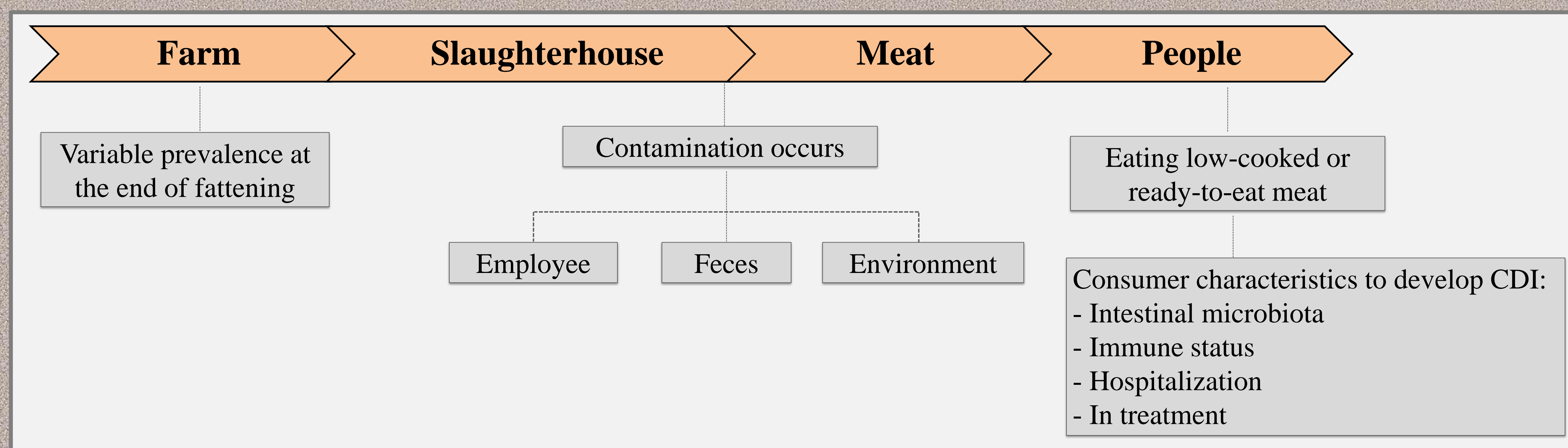


Figure 3. ³A. Watery-pasty diarrhea in piglets. ⁴B. Mesocolon edema. ⁴C. Neutrophils infiltrating the lamina propria, with focal ulcers in the mucosa associated with necrotic cellular debris ("volcanic lesion": arrow).

CDI IN HUMANS



⁵Figure 4. Colonoscopy.



CONCLUSIONS

- C. difficile* isolates obtained from animals and humans reveals that these can be identical. That is why it is considered that animals could be a reservoir.
- Administration of antibiotics is the main risk factor for human disease. However, the relative increase of community-based infections suggests that there may be other factors such as contamination of meat at the slaughterhouse or in the subsequent processing.
- Epidemiological surveillance, based on molecular typing tests, will be essential to know if there is a relationship between the isolates in humans and animals.

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